

To: <dbriggs@ccwater.com>, <lploss@mp.usbr.gov>, <calfedda@water.ca.gov>, <lgage@water.ca.gov>

Subject: Biological Justification for continued DCC gate closure

As requested last week:

MEMORANDUM

From : Data Assessment Team, CALFED Ops

To : CALFED Operations Group

Subject : Biological Justification for Keeping Cross Channel Gates Closed for Fisheries Protection

The CALFED Ops Groups requested the Data Assessment (DAT) to provide a summary of the biological justification used to recommend keeping the Delta Cross Channel Gates closed for fisheries protection when the Spring Run Protection water quality profile was exceeded.

Most of the spring run yearlings emigrated from the Mill and Deer Creeks to the Sacramento River by 10/28. There may be more yearlings in the creeks, but the indication is the majority have left.

The majority of Butte Creek spring run yearlings were caught at the Parrott-Phelan diversion through the end of October. Many more yearlings were caught there in early December. Extensive downstream movement from Butte Creek to the Sacramento River has not been documented. Two yearling spring run were caught in the Sutter Bypass West Canal in early December. Due to low water velocity this rotary screw trap was not functioning well or sampling effectively until early December.

Some of the Coleman marked late-fall run salmon released in Battle Creek on November 12 (spring run yearling surrogates) have been detected at points along the way and in the Delta, including at Chipps Island and at the CVP and SWP export facilities. None were not detected passing Sacramento. Migration of the November surrogate group down the Sacramento River to the Delta has been relatively slow, marked salmon being observed at GCID within 1-3 weeks, at Tisdale and Knight's Landing in 2-3 weeks, and in the Delta in 2-4 weeks. Wild spring run yearlings that had reached the mainstem Sacramento are presumed to be migrating concurrently. Another group of marked late-fall run salmon was released from Coleman Hatchery on 12/9/99.

A pulse of yearling sized Chinook passed Tisdale Weir and Knights Landing on 11/24, three to four weeks after most yearlings were observed leaving Mill and Deer creeks. Based largely on this observation, the Delta Cross Channel gates were closed on 11/26/99. Some of the sampling gear at these sites was not operated on Nov.25-28 so it is not known if Chinook continued to pass these sites during that period. More yearling salmon have passed these sites in December. A marked surrogate for spring run

was caught at Knight's Landing as recently as 12/4, suggesting spring run and surrogates continue to migrate down the Sacramento River to the Delta.

One yearling sized Chinook was observed in the Sacramento trawl on 12/4. None has been collected there since then.

Yearling sized Chinook have appeared in various Delta samples (beach seine, Chipps Island trawl and CVP/SWP salvage) during the last 3 weeks, with catches increasing since 12/1. Two spring run surrogates have been caught at Chipps Island and two have been recovered at the CVP/SWP. Some of these unmarked yearling salmon may not be spring run, but could be Mokelumne River salmon released at Antioch in November.

INTERPRETATION / OTHER FACTORS

No significant turbidity event has occurred this year. In the last four years, turbidity events often associated with downstream movement of juvenile salmon have occurred by late November or early December. Relatively low stable river flows and absence of high turbidity events, conditions we are experiencing so far this year, appear to be conducive to a prolonged period of yearling salmon migration. This is consistent with the current monitoring picture.

Cursory examination of historical CVP and SWP salvage records suggest spring run yearling sized salmon are migrating through the Delta during both December and January in about half the years. In about a fourth of the years yearlings are in the Delta in November/December but are essentially absent in January.

The number of migrating marked and unmarked salmon represented by the catches in various sampling cannot be readily computed. Sampling effort and what we know about the efficiency of the various sampling methods varies widely among locations.

RECOMMENDATION

Based on the above information, the DAT is confident yearling spring run have entered the Delta and are susceptible to the effects of export facilities operations. We don't know what proportion of the run has entered the Delta or what proportion has left the Delta.

The fisheries regulatory agencies conclude the yearling salmon continue to migrate into the Delta and recommend keeping the Delta Cross Channel Gates closed for yearling spring run salmon protection and to provide stable conditions during the Delta Action 8 Smolt Survival Experiment. (The USFWS released tagged late-fall run salmon in the Sacramento River at Isleton and in Georgiana Slough on 12/11 and 12/10, respectively.)

Opening the Delta Cross Channel gates will compromise salmon protection. Some email dialogue has been occurring to consider what mode of gate operation might preserve the highest possible level of salmon protection if some gate opening becomes inevitable.

The DAT will continue to discuss opportunities to open the Delta Cross Channel Gates when yearling spring run are not significantly adversely affected in order to improve water quality.